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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,806	11/26/2003	Charles L. Compton	CCCI 0114 PUS	9770

50764 7590 10/30/2007
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EXAMINER

SINGH, DALZID E

ART UNIT	PAPER NUMBER
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2613

MAIL DATE	DELIVERY MODE
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10/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/723,806

Applicant(s)

COMPTON ET AL.

Examiner

Dalzid Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the appeal brief filed on 04 June 2007, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

Claim Rejections - 35 USC § 112

2. Claims 1-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1, 8 and 15 similarly recite "...modulator directly receiving a switchable digital signal and internally processing the switchable digital data signal to produce a modulated optical signal that directly drives the network fiber node, the optical signal being modulated by a radio frequency signal, wherein the radio frequency signal composes the HFC forward path spectrum and includes a plurality of channel slots, and wherein the radio frequency signal carries the switchable digital data signal in the plurality of channel slots."

The figures as disclosed by applicant merely show modulator receiving signals from switching device. There is no figure or schematic diagram provided to show a person of ordinary skill in the art how the modulator is processing the signal in such that it is able to provide optical signal being modulated by a radio frequency signal, wherein the radio frequency signal composes the HFC forward path spectrum and includes a plurality of channel slots, and wherein the radio frequency signal carries the switchable digital data signal in the plurality of channel slots. There is no figure or circuit diagram provided to show how the digital signal is processed to generate *radio*

frequency signal composes the HFC forward path spectrum and includes a plurality of channel slots, and wherein the radio frequency signal carries the switchable digital data signal in the plurality of channel slots. It appears that there is missing step or process that establishes link between signal from the digital switch to the generation of the optical signal.

In view of the 112 rejection, and the uncertainty of what limitation is applicant intending to claim, the rejection has been made based on a modulator which modulates a received digital signal from a switching device and upconverting such signal by modulating it to generate an optical signal.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 5, 6, 8-10, 12, 13, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Deng et al. (US Pub. No. 2002/0196491 A1).

Regarding claims 1 and 8 (in view of the 112 rejection), Deng teaches an apparatus for use in a hybrid fiber coax (HFC) network to provide the HFC forward path spectrum from the head end to a network fiber node (see fig. 4), the apparatus comprising: a head end modulator (in 102 of fig. 4) directly receiving a switchable digital data signal (from digital XC 106) and internally processing the switchable digital data signal (in 102 of fig. 4) to produce a modulated optical signal that directly drives the network fiber node (transmitted along 108 of fig. 4), the optical signal being modulated by a radio frequency signal (signals from the digital crossconnect 106 of fig. 4), wherein the radio frequency signal composes the HFC forward path spectrum and includes a plurality of channel slots (see paragraph 0031), and wherein the radio frequency signal carries the switchable digital data signal in the plurality of channel slots (see end of paragraph 0031 : note that an exemplary signal can comprise 16 TDM time slots, each carrying 155 Mb/s; see also fig. 4: the optical signals are produced using the CWDM lasers which modulate the switchable data signal received from the digital XC 106; it is noted that the signals from the digital XC 106 are electrical signals, which are in the RF spectrum - see paragraph 0026; the HFC forward path spectrum is understood as the relevant electromagnetic spectrum which is transmitted by the HFC network).

Regarding claims 2 and 9, Deng teaches the head end modulator generates an analog optical signal for the network fiber node (along fiber 108 of fig. 4).

Regarding claims 3 and 10, Deng teaches that the head end modulator processes the switchable digital data signal to dynamically allocate bandwidth to different services (the digital data signal from 106 is allocated by wavelength).

Regarding claims 5 and 12, Deng teaches that the switchable digital data signal is received in the form of a 10 GigE signal (fig. 4 - signal received at 10Gb/s).

Regarding claims 6 and 13, Deng teaches that the switchable digital data signal is received as a single digital data signal input (from 106 of fig. 4).

Regarding claim 20, Deng teaches that the RF spectrum includes a plurality of channel slots in the form of frequency ranges (see paragraph 0031).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7, 14-16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng.

Regarding claims 7 and 14, Deng teaches the limitations of claims 1 and 8 but does not expressly disclose that the switchable digital data signal is received as a plurality of digital data signal inputs. However, it would have been obvious to a skilled

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artisan at the time of invention to configure the input so as to received the signal from a plurality of inputs in order to allow reception from different networks/locations.

Regarding claim 15 (in view of the 112 rejection), Deng teaches the limitations of claim 1 including the limitation wherein the modulator processes its received switchable digital data signal to dynamically allocate bandwidth to different services to provide an essentially narrow cast approach among the plurality, of modulators (the digital data signal from 106 is allocated by wavelength). Deng does not specifically disclose a plurality of modulators to receive the digital data signal and produce the HFC forward path spectrum. However, it is well known in view of admitted prior art that using a plurality of modulators, instead of a single modulator, to transmit a forward path spectrum is well known in the art. It would have been obvious to one of ordinary skill in the art at the time of invention to have a plurality of modulators in the network system of Deng in order to transmit and receive signals to multiple customer premises at the same central office, so as to effectively handle high capacity traffic in a cost efficient manner. This is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of official notice.

Regarding claim 16, Deng teaches the head end modulator generates an analog optical signal for the network fiber node (along fiber 108 of fig. 4).

Regarding claim 18, Deng teaches that the switchable digital data signal is received in the form of a 10 GigE signal (fig. 4 - signal received at 10Gb/s).

Regarding claim 19, Deng teaches that the switchable digital data signal is received as a single digital data signal input (from 106 of fig. 4).

7. Claims 4, 11, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng in view of Applicant's prior art.

Regarding claims 4, 11, and 17, Deng teaches the limitations of claims 1, 8, and 15 but does not expressly disclose that the switchable digital data signal is received in the form of a 1GigE signal. However, digital data received by a central office at a 1GigE level is well known in the art. Applicant's prior art discloses that signals at switchable forms such as 1GigE or 10GigE is well known (pg. 1, lines 24-26)., It would have been obvious to one of ordinary skill in the art at the time of invention to receive signals in 1GigE in order to make use of its cost- effectiveness and to take advantage of the bandwidth capabilities.

Response to Arguments

8. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

October 17, 2007

DALZID SINGH
PRIMARY EXAMINER

